

REMARKS

Favorable reconsideration of the application is respectfully requested in light of the amendments and remarks herein.

Upon entry of this amendment, claims 26-55 will be pending. By this amendment, claims 1 to 25 have been canceled; claims 26-55 have been added. No new matter has been added.

In the Specification

Applicants have amended the specification to preserve the disclosure of the originally filed claims.

Newly-added claims 26-50

By this amendment, claims 26-50 have been newly added. Claims 1-25 have been canceled. Claims 26-50 are based on original claims 1-25. The limitation added to the independent claims with the amendment of November 8, 2004 has been removed, and the subject matter of original claim 3 has been incorporated into independent claim 26.

In the Background section of the Specification, it was indicated, “[T]he DAB Standard, ‘Radio broadcasting systems; Digital Audio Broadcasting (DAB) to mobile, portable, and fixed receivers’, ETSI, ETS 300 401, Mai 1997, Second Edition is an international standard for implementing a digital broadcast system” *Specification, page 1, lines 6-13*. “With the availability of the up-coming DAB system, it is possible to realise an information service, e.g. dedicated to the needs of a car driver. Such an information service has to deal with some specific requirements Information must be accessible in a fast manner without long-lasting

distraction of the driver. Information should be presented in a unified way, so that control of the system becomes intuitively soon.” *Specification, page 1, lines 15-21*. It is further stated, “[t]herewith, it is an object underlying the present invention to provide a method to transmit an information service in a broadcast transmission system.” *Specification, page 1, lines 23-25*.

To achieve this object, embodiments of the present invention provide method, receiver and system claims related to transmitting an information service in a broadcast transmission system by providing information in a fast, efficiently retrievable and unified manner. *See Specification, page 1, lines 6-32*. For example, the structure of apparatus claim 26, as presented herein, includes:

“performing a fragmentation within each of categories representing said information service to create data fragments,

adding signalling information to every data fragment, which signalling information allows a consistent reassembly of said data fragments at a receiver on basis of predefined protocol rules, to create respective broadcast objects, and

transmitting said broadcast objects in an order according to an information content of said data fragment within said broadcast object,

wherein a broadcast object is classified in dependency on the information content of the data fragment carried within said broadcast object, and

a repetition rate of transmitting a broadcast object is dependent on its type.”

(emphasis added)

Therefore, in one aspect of claim 26, the transmitting method includes performing a fragmentation within each of categories representing said information service to create data fragments, adding signalling information to every data fragment, which signalling information allows a consistent reassembly of said data fragments at a receiver on basis of predefined

protocol rules, to create respective broadcast objects, and transmitting said broadcast objects in an order according to an information content of said data fragment within said broadcast object, wherein a broadcast object is classified in dependency on the information content of the data fragment carried within said broadcast object, and a repetition rate of transmitting a broadcast object is dependent on its type.

Original claim 3, which has been incorporated into claim 26, was rejected as being unpatentable over Rinne (U.S. Patent no. 6,549,753) in view of Steele et al. (Pub. No. US 2002/0046084; hereinafter referred to as “Steele”). It was stated that Rinne “fails to teach that a broadcast object is classified in dependency on the information content of the data fragment carried within a broadcast object, and a repetition rate of transmitting a broadcast object is dependent on its type.” *Office Action, page 5*. Figure 5 of Steele was cited for teaching the claimed feature wherein “a repetition rate of transmitting a broadcast object is dependent on its type” (emphasis added). Yet Figure 5 and its associated description fail to discuss repetition rates or dependency on broadcast object types. Thus, Steele fails to teach or suggest “a repetition rate of transmitting a broadcast object is dependent on its type,” as claimed. Therefore, Rinne and Steele, alone or in combination, fail to teach or suggest all the limitations of claim 26.

Based on the foregoing discussion, it is submitted that claim 26 should be allowable over Rinne and Steele. Since claims 27-46, as presented herein, depend from claim 1, claims 27-46 should also be allowable over Rinne and Steele.

Claim 47

The receiving method of newly-added claim 47, as presented herein, includes:

“receiving broadcast objects;

extracting signalling information and a data fragment of every received broadcast object, which signalling information allows a consistent reassembly of said data fragments into an information category of said information service on basis of predefined protocol rules; and

performing a defragmentation within each of categories representing said information service to create said information service.”

(emphasis added)

Accordingly, in one aspect of claim 47, the receiving method includes receiving broadcast objects; extracting signalling information and a data fragment of every received broadcast object, which signalling information allows a consistent reassembly of said data fragments into an information category of said information service on basis of predefined protocol rules; and performing a defragmentation within each of categories representing said information service to create said information service.

In the previous Office Action, claim 23 was rejected as anticipated by Rinne. It was stated that Rinne teaches “receiving broadcast objects; extracting signalling information and a data fragment of every received broadcast object, which signalling information allows a consistent reassembly of said data fragments into an information category of said information service on basis of predefined protocol rules; and performing a defragmentation within each of categories representing said information service to create said information service . . . (col. 4, line 20-27).” Claim 23 has been canceled and Claim 47 now contains these limitations.

The cited portion of Rinne fails to discuss or allude to extracting data fragments of received broadcast objects, reassembly of data based on predefined protocol rules, or defragmentation within categories, as described in claim 47. Therefore, Rinne fails to teach or suggest receiving broadcast objects; extracting signalling information and a data fragment of

every received broadcast object, which signalling information allows a consistent reassembly of said data fragments into an information category of said information service on basis of predefined protocol rules; and performing a defragmentation within each of categories representing said information service to create said information service,” as claimed (emphasis added). Therefore, Rinne fails to teach or suggest all the limitations of claim 47. The remaining cited prior art also fails to teach or suggest all the limitations of claim 47.

Accordingly, claim 47 should be allowable over the cited prior art. Since claim 48 depends from claim 47, claim 48 should also be allowable over the cited prior art. Since claim 49 closely parallels, and contains substantially similar limitations as those recited in, claim 47, claim 49 should also be allowable over the cited prior art.

Newly-added claims 50-52 and 54

Claims 50-52 and 54 have been newly-added to describe additional embodiments of the invention.

For example, in one aspect of claim 50, the method for fragmenting and transmitting an information service in a broadcast transmission system (*said information service having a logical structure comprising one or more information categories representative of said information service as well as, for each of said information categories, one or more items representative of the respective information category, and said information service comprising, for each of said information categories, one or more information category data units respectively associated therewith as well as, for each of said items, one or more item data units associated with the respective item and a respective one of said categories*) comprises: *grouping*, with respect to each of said information categories representing said information service, the item data units

associated with the respective information category into a plurality of data fragments respectively comprising one or more of said item data units; *adding*, to each of said data fragments so as to create respective broadcast objects, *signalling* information that allows a consistent reassembly of said data fragments at a receiver on the basis of predefined protocol rules; *determining* a transmission order for said broadcast objects on the basis of an information content of the data fragment within the respective broadcast object; and *transmitting* said broadcast objects in said transmission order.

None of the cited prior art references teach or suggest all the limitations of claim 50. Therefore, claim 50 should be allowable over the cited prior art references. Since claims 51 and 52 depend from claim 50, claims 51 and 52 should also be allowable over the cited prior art references. Since claim 54 closely parallels, and recites substantially similar limitations as recited in, claim 50, claims 54 should also be allowable over the cited prior art references.

Newly-added claims 53 and 55

Claims 53 and 55 have been newly-added to describe additional embodiments of the invention.

For example, in one aspect of claim 53, a method for receiving and reassembling an information service in a broadcast transmission system (*said information service having a logical structure comprising one or more information categories representative of said information service as well as, for each of said information categories, one or more items representative of the respective information category, and said information service comprising, for each of said information categories, information category data respectively associated therewith as well as, for each of said items, one or more item data units associated with the respective item and a*

respective one of said categories) comprises: *receiving* a plurality of broadcast objects, each comprising signalling information and a data fragment, which signalling information allows a consistent reassembly of said data fragments into an information category of said information service on the basis of predefined protocol rules, and which data fragment comprises a group of one or more of said item data units associated with a respective one of said information categories representing said information service; *extracting* said signalling information and said data fragment from each of said received broadcast objects; and *reassembling*, with regard to one or more of said categories representing said information service, the data fragments associated therewith on the basis of the respective signalling information.

None of the cited prior art references teach or suggest all the limitations of claim 53. Therefore, claim 53 should be allowable over the cited prior art references. Since claim 55 closely parallels, and recites substantially similar limitations as recited in, claim 53, claim 55 should also be allowable over the cited prior art references.

Conclusion

In view of the foregoing, entry of this amendment, and the allowance of this application with claims 26-55 are respectfully solicited.

In regard to the claims amended herein and throughout the prosecution of this application, it is submitted that these claims, as originally presented, are patentably distinct over the prior art of record, and that these claims were in full compliance with the requirements of 35 U.S.C. §112. Changes that have been made to these claims were not made for the purpose of patentability within the meaning of 35 U.S.C. §§101, 102, 103 or 112. Rather, these changes

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were made simply for clarification and to round out the scope of protection to which Applicant is entitled.

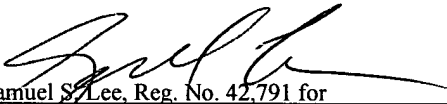
In the event that additional cooperation in this case may be helpful to complete its prosecution, the Examiner is cordially invited to contact Applicant's representative at the telephone number written below.

The Commissioner is hereby authorized to charge any insufficient fees or credit any overpayment associated with the above-identified application to Deposit Account 50-0320.

Respectfully submitted,

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